Palmerton Zinc

EPA Region 3
Pennsylvania
Carbon County
Palmerton

EPA ID# PAD002395887

11th Congressional District

Last Update: February 2002

Other Names:
New Jersey Zinc (Gulf & Western)

Current Site Status

The U.S. Environmental Protection Agency is overseeing the cleanup of the Palmerton Zinc Pile, which is being carried out by Viacom International, Inc. and Horsehead Industries, Inc., the parent company to Zinc Corporation of America, the parties potentially responsible for the contamination, or PRPs. The site is divided into four separate cleanups, known as operable units.

At Operable Unit #1 the EPA is requiring that the PRPs revegetate about 2,000 acres of Blue Mountain. The vegetation on the mountain was killed by air and soil contamination resulting from the historic smelting operations. So far, Horsehead has revegetated approximately 1,000 acres, and in October 2000, the EPA approved a Viacom preliminary design to revegetate an additional approximate1,000 acres. The Viacom design is a different approach utilizing air drop applications of manure, fertilizer and seed to accomplish revegetation. The approval of the preliminary design will

be based on the outcome of 12 test plots, varying the amounts of grass, seed, fertilizer and manure. Two out of the 12 test plots were initially successful in growing grass. Those two plots will be monitored through Spring 2002, and if the grass survives, the remaining revegetation will be done, in the Fall of 2002 with some modifications aimed at improving the design, on the formula used in the successful test plots.

At Operable Unit #2 which is the clean-up of the Cinder Bank, Horsehead is currently building a system to divert surface water around the Cinder Bank, treat contaminated leachate before it is discharged to the nearby Aquaschicola Creek and revegetate all but a portion of the Cinder Bank. This work is expected to be completed in the Fall of 2002.

At Operable Unit #3, which is the cleanup of residential soils throughout the Borough of Palmerton, and surrounding areas, the EPA on October 9, 2001 issued a final Record of Decision, or final clean up plan for the contaminated residential soils. Currently, the EPA is negotiating with the responsible parties to determine who will perform the clean up.

At Operable Unit #4 which is comprised of Groundwater/Surface Water and Ecological Risks, EPA is currently finalizing a Remedial Investigation (RI) which utilizied existing ground water data to try to determine the extent of contamination. EPA also recently completed the ecological risk assessment which will be incorporated with the remedial investigation. After the RI is completed, EPA will complete a Feasibility Study(FS) which will evaluate several possible cleanup plans. After the RI/FS reports are completed, EPA expects to issue a final clean up plan, or Record of Decision sometime later in 2002.

Site Description

The Palmerton Zinc Pile Site is the area of a former primary zinc smelting operation. The site encompasses the Bourough of Palmerton and surrounding areas, Blue Mountain, a large smelting residue pile called the Cinder Bank and much of the valley. For nearly 70 years, the New Jersey Zinc Company depositied 33 million tons of slag at the site, creating a cinder bank that extends for 2 ½ miles and measures over 100 feet high and 500 to 1,000 feet wide. The smelting

operations emitted huge quantities of heavy metals throughout the valley. As a result, approximately 2,000 acres on Blue Mountain, which is adjacent to the former smelters, have been defoliated, leaving a barren mountain side. Soil on the defoliated area of the mountain has contaminated the rain water flowing across it. The runoff and erosion have carried contaminants into Aquashicola Creek and the Lehigh River. Approximately 850 people live within one mile of the site; the population of the town of Palmerton is approximately 5,000. The Palmerton Water Company has four production wells at the foot of Blue Mountain that supply water to the towns of Palmerton and Aquashicola.

Site Responsibility

This site is being addressed through Federal and potentially responsible parties' actions.

NPL Listing History

Our country's most serious, uncontrolled, or abandoned hazardous waste sites can be cleaned using federal money. To be eligible for federal cleanup money, a site must be put on the National Priorities List. This site was proposed to the list on December 30, 1982 and formally added to the list on September 8, 1983.

Threats and Contaminants

Dust and soil still contains heavy metals such as lead, cadmium, and zinc from former processes in the Borough of Palmerton and surrounding area. Blue Mountain, the Cinder Bank and the shallow groundwater and surface water adjacent to the Site are affected by elevated levels of heavy metals as a result of historic operations. Aquashicola Creek is contaminated with zinc, copper and cadmium from Cinder Bank leachate and surface runoff. People who come in direct contact with or accidentally ingest contaminated ground water or surface water may be at risk. Contaminants have been found in residential soil and may pose an elevated health risk. In past years, children in Palmerton have been found to have elevated levels of lead in their blood. Fish in Aquashicola Creek contain bioaccumulated contaminants, and eating them may pose a health threat. Horses and cattle that graze in the area have shown high concentrations of lead and cadmium, which has caused substantiated cases of illness and fatigue.

Contaminant descriptions and associated risk factors are available on the Agency for Toxic Substance and Disease Registry, an arm of the CDC, web site at http://www.atsdr.cdc.gov/hazdat.html EXIT disclaimer

Cleanup Progress

Blue Mountain, Operable Unit #1

In 1987, the EPA selected an interim remedy to clean up approximately 2,000 acres of Blue Mountain, which included installing a concrete pad with berms to mix sewage sludge and fly ash, spreading lime and potash on the areas to be revegetated, and planting grass seed and tree seed on the area. Horsehead Resource Development, Company/Zinc Corporation of America has conducted plantings/seedings on approximately 775 acres of the mountain. The first phase of construction was begun in 1991. The final phase of the construction (grading/seeding) was completed in 1995. In 1994, reclamation experts with the U.S. Army Corps of Engineers evaluated the progress of the remedy and found that while grass had largely been established on Blue Mountain, tree growth from seeds was well below target.

In November 1996, EPA requested that the PRP, Zinc Corporation of America, a division of Horsehead Industries, Inc. extend the remedial approach to establish grass cover on the remaining yet untreated 1,000 denuded acres of mountain. The PRP has refused to perform any work on this portion of Blue Mountain. In December 1999, EPA ordered Viacom and Horsehead to vegetate the additional 1,000 acres. In March 2000, EPA received the Remedial Design Workplan as required by the order from Viacom. In Fall 2000, EPA gave approval of Viacom's preliminary design calling for application of seed, manure, fertilizer, flyash and lime from the air to accomplish revegetation of the Mountain. EPA's approval was contingent on the success of 12 one acre field pilot test plots, utilizing varying mixtures of manure, seed fertilizer, flyash and lime. The field pilot test plot applications were conducted in October, 2000. EPA and representatives of the PRPs, PADEP and DOI conducted site visits in May and again in September 2001 to evaluate the success rates of the pilot test plots. It was determined that preliminarily two of the

twelve test plots had been initially successful in establishing vegetative cover. However, due to concerns regarding long term survivability is was decided that further evaluation of the plots through Spring 2002 was warranted. EPA has recently received a report from Viacom detailing the test plot applications, observations and evaluations from the site visits and also suggesting possible resolutions for concerns raised during the evaluation process. EPA is currently reviewing the report and will be providing comments to Viacom. The test plots will be further evaluated in Spring 2002.

Cinder Bank, Operable Unit #2

In 1988, the EPA selected a remedy to clean up the cinder bank, which included revegetating the area and extinguishing the subsurface smoldering fire. Engineering and cost analysis of this selected remedy is under review. Review of this analysis may result in selection of an alternative remedy. Horsehead Resource Development, Co. recently completed several additional studies for the cinder bank. One such plan was to provide a vegetative cover to portions of the Cinder Bank to prevent airborne and precipitation-borne release of contaminants. EPA was able to approve a scaled-down version of the original (94 acre) work plan in August 1995. Zinc Corporation of America has graded approximately 13 acres of the cinder bank in preparation for the experimental application of a sludge/fly ash mitigated vegetative cover, originally slated to begin in spring 1996. However, in 1995, the parent company signed a consent decree with the United States to address violations of hazardous waste, clean water and clean air regulations associated with their ongoing industrial operation. Surface water will be diverted around the cinder bank, contaminated leachate will be treated prior to discharge to Aquaschicola Creek and a vegetative cover was to be placed on the cinder bank under this consent decree. The final plan for this agreement was approved by EPA. The plan was implemented in the Spring 2000. As of December, 2001 construction of the diversion ditches and metals removal zones were complete. Approximately 80% of the cinder bank has been covered and vegetated. The remainder of the work necessary to complete construction at the cinder bank will take place in the spring and summer of 2002.

Borough of Palmerton, Operable Unit #3

In May 1994, EPA cleaned the residences with the highest contaminant levels and residents most at risk. Through November 1997, almost 350 homes have been sampled for contamination and 200 residences have been cleaned.

Late in 1994, following the rejection of two PRP-funded risk assessments (1991 and 1994), EPA Region III launched a participatory effort on the risk assessment between EPA, the PRPs and the stakeholders in the Palmerton community. This effort is the first of its kind in the Superfund Program and was completed in September 1997. EPA shared the results of their community-based risk assessment with Palmerton-area stakeholders in February 1998 and issued the risk assessment in final form in May 1998. EPA looked at recommended alternatives to remediate the health risks identified in a feasibility study which was completed in the Spring of 2000. EPA then issued a proposed remedial action plan for comment from the general public in June 2000. After carefully evaluating comments received on the Proposed Remedial Action Plan, EPA issued a final Record of Decision (ROD) on October 9, 2001. The final ROD sets forth the final cleanup plan for residential soils in the Palmerton area. EPA is currently negotiating with the PRPs to determine who will implement the plan called for in the ROD. The negotiations will be followed by remedial design and the start of remedial action by Spring 2003.

Groundwater and Surface Water, Operable Unit #4

The EPA issued Special Notice and an Administrative Order on Consent to allow the potentially responsible parties to study the type and extent of the contamination in groundwater, site streams and creeks. In 1996, the PRPs refused to perform this work. EPA has since taken over the groundwater and surface water investigation and in the face of some citizens' apprehension has been working with the community, State agencies, state and local government to communicate the importance and the safety of performing this investigation. In November 1997, EPA began residential well surveys of the surrounding communities to identify existing wells that would be suitable for sampling prior to the commencement of well-drilling. In July 1998 EPA sampled four home wells nearest the Site. The results indicated that the metals analyzed for, cadmium and lead, were not detected above EPA Region III risk based concentrations, or

Maximum Contaminant Levels (MCLs). In December 1998 EPA sampled on-site monitoring wells and compared the results to the existing groundwater data from the same wells collected by the PRPs. The newly collected data had similar concentrations of cadmium, lead and zinc as the historical data. EPA also sampled five wells located at the eastern end of the cinder bank in April, 1999. The results were consistent with concentrations found in the monitoring wells sampled in December. Based on a review of all of the existing and newly collected data, EPA announced at a joint Groundwater Committee and Palmerston Environmental Task Force meeting that deep wells would no longer be necessary at the site. EPA continues to work on the Remedial Investigation Report (RIR) and the Feasibility Study which are expected to be finalized in the late spring of 2002.

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Detailed public files (Administrative Record) on EPA's actions and decisions for this site can be examined at the following locations:

Palmerton Library

402 Delaware Avenue
Palmerton, PA 18071

U.S. EPA Region III
6th Floor Administrative Record Room
1650 Arch St.
Philadelphia, PA 19103-2029
215-814-3157

Please call to schedule an appointment.